

MATERIALS TESTING MANUAL

INTRODUCTION

The Materials Testing Manual has been prepared for the purpose of standardizing sampling and testing procedures in the various laboratories which test materials for conformance to Arizona Department of Transportation specifications. The procedures found in this manual fall into one of four categories.

1. Those procedures which follow an established standard. The American Association of State Highway and Transportation Officials (AASHTO) is the primary contributor. Some procedures are conducted in accordance with the American Society for Testing and Materials (ASTM). Commonly used procedures in this category are listed on the cover sheet in their respective series, but these listings are not intended to include all procedures referenced in the Arizona Department of Transportation specifications.

2. Those procedures which generally follow an established standard, but which have been modified in some degree. They have been designated as modifications in a subheading beneath the title.

3. Those procedures that are modifications of testing procedures used by other state transportation departments.

4. Those procedures which have been originated by the Arizona Department of Transportation and which may not be fully described in national publications. These have been subtitled "An Arizona Method".

Each procedure in category 1 listed above is assigned an alphanumeric designation either by AASHTO or ASTM. The year that a procedure is adopted, or the latest revision to a procedure, is identified following the procedure designation and separated by a hyphen. Procedures that have been re-approved without change are indicated by the year of re-approval in parenthesis following the procedure designation and the year of adoption or latest revision. AASHTO publishes the "*Standard Specifications for Transportation Materials and Methods of Sampling and Testing*" and the "*AASHTO Provisional Standards*" yearly. Unless otherwise specified, the effective date of AASHTO standards is the first day of the month following publication and distribution of the published standards. Additional information regarding AASHTO standards can be obtained on the AASHTO website (www.transportation.org). The "*Annual Book of ASTM Standards*" is published in separate volumes throughout the year. Additional information regarding ASTM standards can be obtained on the ASTM website (www.astm.org).

Each procedure in category 2, 3, or 4 listed above is given a number prefixed by "ARIZ". Revised test designations will have a letter suffix, for example, the first revision of test method ARIZ 201 would be ARIZ 201a, the second revision will be 201b, etc. Each procedure, or revision to it, is also identified by a date on which it becomes effective. References made to procedures in the manual which either do not include a letter suffix or have a suffix which has been superseded shall be understood to refer to the latest revision of the respective numbered procedure. The Table of Contents lists all Arizona sampling and testing procedures included in the manual, with their respective necessary letter suffixes.

The manual is divided into 10 different series, and an Appendix section, concerned with sampling and testing procedures for specific materials, design methods, or certification procedures.

It is the intent of Materials Group to describe the procedures in such detail that a competent operator who is unfamiliar with the method can obtain accurate results when the procedure is followed in detail. We will welcome any suggestions for improvement in these procedures that will assist in accomplishing this objective.

All revisions to the Materials Testing Manual shall officially originate from Materials Group, Quality Assurance Section.

Revisions will be issued under a Materials Testing Manual Change Letter. All change letters issued will be numbered consecutively, beginning with No. 1.

Change letters will be signed by the Assistant State Engineer, Materials Group.

Revisions issued under each Materials Testing Manual Change Letter will be effective for projects with a bid opening date on or after the effective date of the corresponding change letter.

Materials Group will welcome any suggestions for the improvement of the Materials Testing Manual, as it is hoped and intended that manual users will participate its formulation and revision.